

Later naturalists in their attempts at generalization, have underrated the characters of the teeth, and overlooking the auxiliary characters impressed by the inhabiting molluscum on the shell, furnish a proof, if any were wanting, of the value of distinctions taken from the hinge, which will always be found to vary in nearly as great a degree as the inhabitant of the shell, to which we must ultimately look for those distinctions which will stamp the generic character with a real value. Where good opportunities may not occur of studying the animal of a bivalve shell, a careful consideration of the teeth aided by the situation and length of the ligament and siphonal scar, will seldom, if ever, fail to indicate its true place in nature.

LAMARCK imagined that the genus *Galathea* inhabited the rivers of Ceylon and India, and RANG appears to be equally ill informed on the subject of its true habitat. The specimen which Mr. G. B. SOWERBY obtained for me in London, was stated to have been procured from the river *Zaire* or *Congo*. The complete occupation of Ceylon by the British Government, without the discovery and transmission of any of these shells from the island, ought to afford a sufficient evidence of its non-occurrence in that quarter; but the recent discovery of the jackal in the Morea by French naturalists, after the opportunities so long enjoyed by our countrymen of exploring that region had failed to elicit that interesting information, forbids our placing complete reliance on such negative evidence in disproof of the existence of *Galathea* in Ceylon.

In conclusion it is proper to remark, that I have not met with SOWERBY's observations on *Potamophila*; should he have indicated the correct place of the genus, I can only plead, as an excuse for my work of supererogation, that I have been misled by the statement of a later writer, who, from the nature of his work and his opportunities, ought to have been acquainted with the latest information on the subject of the Testacea, into the belief that the knowledge of the affinities of this shell had not only not advanced, but that it had retrograded since the date of LAMARCK's publication.

Bareilly, Rohilkhund, March 1838.

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IV.—Account of the Hurricane or Whirlwind of the 8th April, 1838.  
By Mr. J. FLOYD, (communicated by J. H. PATTON, Esq. Magistrate of the 24-Pergunnahs.) (See Sketch in Pl. XVIII).

Agreeably to your request I beg to hand you the following account of our visit to the villages that have suffered by the storm of the 8th instant.

We proceeded to *Codalea* and on our arrival met one of the sufferers a brahmin, who had lost his family consisting of five persons, and had his leg broken. The outskirts of this village have a beautiful appearance and seem to have escaped the storm. The storm seems to have done little damage to the west\* and south of *Codalea*, but from north to east it has made dreadful havoc, sweeping every thing before it. Indeed, with the exception of the government salt chokee and a few habitations adjoining it, all *Codalea* has suffered more or less; some houses constructed of brick and clay have followed the general wreck: the walls have almost all crumbled into dust: large trees have been torn up by the roots; some have been broken at the stumps, while the small and elastic ones have escaped with only the loss of leaves and branches.

A peepul tree around which a bur had entwined itself attracted my particular attention. A brahmin whose appearance denoted him to be about the age of 80 years, informed me that the tree in question was a favourite resort for the village nymphs and swains and for themselves on particular occasions; and that it afforded shelter to the weary traveller; that it had been standing time out of mind and to the knowledge of the oldest inhabitants had never lost a bough. It was the first tree that encountered the storm and the first that fell. The circle from whence the roots sprung was 35 feet in diameter, and these being of extraordinary length caused the earth to come away with the tree and to leave a chasm of about 38 feet in width by 14 in depth: most of its stouter branches were wrenched off and thrown into an adjoining tank, at such a distance as to prove the extraordinary violence with which the tree was assailed.

The paths were obstructed by fallen trees, &c. and the tanks choked with branches, in consequence of which they have become either impassable or stagnant. 55 persons have sustained bodily injury, but reports vary as to deaths; I am certain many must have lost their lives on the occasion, but there is no arriving at the actual number of those; 17 have had their limbs very severely injured and I fear cannot survive. As many of the wounded as we possibly could find were collected together, and were attended to by the native doctor who accompanied us. The females of the "*Koolin*" families were looked after in their temporary abodes, and the severest cases we advised to be removed to the hospital at Allipore, but without effect; the "*Gunga*" they said was close at hand, whither their friends would take them were they to die. To prevent our enforcing our wishes they appealed in the most pathetic terms to their relatives and friends, and intimated to us that they preferred

\* Where a few houses have been left entire.

death to quitting their families, their birth-places and their homes, even for a few days.

The gomastah used his influence : money was even offered, but it was of no avail ; and we were eventually obliged to abandon the project.

As much medicine as could be conveniently spared we made over to the gomastah and instructed him how each kind should be used. We then took our leave of the houseless sufferers of *Codalea* and bent our course towards *Bykunthpore* village to the west of *Codalea*. On entering the limit of this village we were of opinion that it had not suffered in comparison with the former, and congratulated some of the inhabitants whom we met, upon it. They invited us to visit the interior of the place when they said we should be better able to judge of its condition : we had not proceeded far when we were convinced we had come to a hasty conclusion ; for about a quarter of a mile in length not a house, hut nor tree had escaped the violence of the storm, in fact every thing that opposed its progress was levelled to the ground. Persons visiting the place ignorant of the occurrence of the storm, would suppose the mischief, as far as trees are concerned, had been caused by fire ; I had almost come to the above conclusion myself on observing the stumps of trees, withered leaves and here and there posts of houses, &c. Such was the violence of the wind that cocoanut and date trees were twisted out of the ground and hurled to a distance of two or three hundred feet ; granaries out of number have been swept away, and life both of man and beast destroyed. We traversed the whole extent of the village and witnessed many shocking sights. In one place a cow was dug out after remaining beneath the ruins *four* days, and though life was not extinct, crows and vultures were devouring the body.

When so many lives of human beings and animals have been lost without adequate means for the immediate removal of the bodies, it was to be expected that the stench proceeding from the putrid carcasses would become intolerable and deter any one having a regard for his own life from entering the place. But neither the putrefaction nor the repulsive sight of mangled bodies deterred Mr. PATTON from visiting the place and giving such instructions to those under his authority as the peculiar cases of the village and of the maimed seemed immediately to require\*. The humanity thus exhibited contrasts most painfully with the conduct of those villagers who had sustained no injury—they were indifferent to the misery and woe inflicted upon others, and seemed almost indifferent to their own concerns.

\* Mr. PATTON has raised a subscription and distributed it among the survivors.  
—ED.

I left my father at *Bykunthpore* and visited *Majaree Gaon*, *Pergunah Anarpur*, *Dum Dum*, *Anundpore*, *Baleaghatta*, the salt water lake, and adjacent villages. *Baleaghatta* towards the west does not appear to have experienced the effects of the storm in all its horrors, as only a few huts came to the ground, and but one life was lost; but Mr. G. PRINSEP'S saltworks on the opposite side of the canal have suffered materially\*.

I could not ascertain the actual loss of life and property in the canal, but by information collected from the boatmen and others it would appear that fifteen lives were lost, and about twelve boats. That there may have been more I do not deny; I only saw five wrecks, one of them in the new dock said to have been conveyed thither by the violence of the wind, the anchor of which must have weighed at least twelve maunds! But in "*Bairnala*" almost every boat was swamped. The villages of *Sambandal* and *Chowbagan*, have been laid desolate: men, women, and children have died without number as well as animals—I say without number, because there was an established *hát* in *Sambandal*, and on that day, I understand, it was crowded to excess by people from the neighbouring villages as well as by the residents. At *Bykunthpore* and *Codalea* the visitation has been awful indeed, but at the first mentioned places it surpasses all description; as far as the eye could reach not a house is to be seen, the grass (I am at a loss how to account for it) has been consumed, and the choppers of houses have vanished as if they were mere vapour: *Dongahs* and *Saultees*† have been carried up, and in their descent shattered into atoms. The bark of the palm-trees have been peeled off as with a knife, and their leaves broken into shreds; I am of opinion that the effect of the whirlwind was more severely felt at *Chowbagan* and *Sambandal* than at any other part; also, that it was owing to the vast expanse of water

\* Some particulars of the damage sustained by these works are worthy of record. An iron salt boiler weighing more than a maund was lifted into the air and conveyed a few yards distance:—the tiles of the terraces laid in the best cement were ripped up as it were by suction. A beauliah or pleasure boat, lying on the ground for repair disappeared, and only a few fragments were found:—the chimney was thrown down and the roofs of the salt golas blown away—it appears from an observation of Prof. O'SHAUGHNESSY in this month's Asiatic Society's Proceedings, that some of the salt fell in lumps at a great distance! Large beams were lodged on the salt works from the opposite side of the canal; but the most extraordinary proof of the force exerted in a lateral direction was evinced in the projection of a slight bamboo horizontally through one of the raised tiled walks, which pierced through the whole breadth, breaking the tiles on both sides. It has been cut off and preserved in situ as a monument of the storm.—A six-pounder could hardly have forced so light an arrow through a mass of earth five feet thick.—ED.

† Canoes and hollowed logs of wood used as fishing boats.—ED.

over which it took its course ere it met with any impediment, and having encountered one of the above villages almost immediately after crossing the water every thing before it was swept away. It pursued its course in a southerly direction, levelling trees and houses in its course, exhausting itself at *Codalea*. The villages of *Sambandal* and *Chowbagan* are well raised; the lands surrounding them, being remarkably low and bounded on the east, west and south by paddy fields, and on the north by the lake; no regular road leads to them but merely bunds, constructed for the preservation of the annual crops over which the inhabitants travel, which circumstances seem to account for the greater violence of the hurricane at these places. About three or four hundred yards to the west of *Sambandal* there are a few scattered huts slightly injured, and that chiefly in their thatch.

These villages were chiefly inhabited by fishermen, who were at the time on the lake, and never felt the effects of the storm till on their return they found their villages demolished and only a few surviving to account for the occurrence. From the position of some of the bodies I should suppose that, escaping the falling houses they had been thrown down by the whirlwind; or the wind being excessively hot, which is said to have been the case, deprived them of breath; while others encountering bamboos, &c, which were flying about as so many straws, met with their death from them. As instances of the effect of the bamboos I must state that I saw a body resting on a bamboo which must have struck instantly dead; also the body of a female not quite fifteen feet from a hut, and from which it is apparent she had been endeavouring to escape, who having encountered a bamboo that was lying at her feet must have there fallen. In a group were to be seen seven cows, one in a sleeping posture, and but for the mangled condition of the rest, I should have supposed it to be still alive, and am convinced that the animal died through fright or suffocation as there was not a tree nor house near to it.

*Bákháries* or split bamboos forming the choppers of houses did great execution. The gomastah of the above villages gave me the following romantic account of the storm.

On Sunday the 27th Choitro, at about half-past 2 P. M. while the fishers were out in the lake, the hurricane came on; that at first it appeared in a westerly direction, and to the best of their judgment two dark columns that were visible whirling round and round descending to the earth, had the appearance of two huge daityas (or demons) preparing for combat; that a second before they fairly alighted they engaged in mortal strife, and agitating the waters in the lake began their work of

destruction on land, that such as were in their houses hastened out to witness this wonderful phenomenon, and ere they could return to their homes, which my informant tells me they were soon obliged to do, the sudden darkness that overspread the place, the howling of the wind and clouds of dust attending it, rendered it impossible for them to bear testimony as to which of the two gained the victory: that from the occurrence of the whirlwind, to the period it lasted, or left these parts, it did not occupy twenty minutes, and was almost immediately followed by sunshine, little or no rain, but a severe fall of hail, which probably deprived some of life. The gomastah further informed me that after the storm had subsided such as could do so, had their families conveyed to the neighbouring villages, others abandoned the place altogether and there were none to remove the dead and dying. Of the latter he remarked there were scarcely any. I might as well notice here, that it is said, that examining the bodies the following day they had the appearance of being burnt by fire; I could only find two of the wounded at *Chowbagan* who were despatched to the hospital at *Allipore*. At the village termed *Mazare Ganw* the whirlwind came on at about half-past one o'clock, at *Soorah*, *Anundpore*, *Balleaghatta*, *Chowbagan*, and *Sambandal*, two and three o'clock; and the villages further east, *Bykunthpoor* and *Codaléa*, four o'clock, and though not lasting more than half an hour in each, its effects have been truly distressing; it hailed in the above mentioned places, and in the two last named villages the hail was triangular. I give this latter information as I derived it, but at *Dum Dum* the stones were uncommonly large, one weighed three and a half pounds\*; whether my informant was exaggerating I am not aware, but I saw a large *handi* (capable of containing seven or eight seers) containing water which he assured me was of the hailstone, the weight of which is given above; he said it might have weighed more, but was broken in its fall: the fragments he did not collect.

\* We have been informed that one hailstone at *Dum Dum* would not go into a finger-glass; we picked up some at the mint nearly as large as walnuts. The large size of these stones led us to suppose that they must have been of intense cold on their issuing from the clouds, so as to continue condensing and freezing the moisture of other clouds, and the air, in their passage downwards. We collected a quantity immediately on their reaching the ground, but their temperature was then exactly 32°.—ED.

Statement exhibiting the number of lives computed to have been lost, the names of the villages through which the hurricane passed, and other particulars.

Names of the Thanahs.	Names of the villages.	Extreme extent of storm.	Average breadth of the film of wind.	Direction of wind, straight or revolving.	Number of Pucka houses destroyed.	Number of Kutchah houses destroyed.	Number of human lives lost.	Number of Cattle ditto.	Number of wounded.	The period of its duration.	
Manicktula, ..	Anundpore, ..	16 miles.	$\frac{3}{4}$ mile and $\frac{1}{2}$ mile.	Revolving,	..	..	..	..	..	4 hours.	
Ditto, .....	Soorah, .....			ditto, .....	..	..	..	..	..		
Ditto, .....	Pagladanga, ..			ditto, .....	..	..	..	..	..		..
Ditto, .....	Mr. Prinsep's salt works, ..			ditto, .....	1	..	..	..	..		..
Pautturghotta, ..	Botchtullah, ..			ditto, .....	..	33	..	..	..		..
Ditto, .....	Chowhata, ..			ditto, .....	..	224	105	235	31		..
Ditto, .....	Butgotchee, ..			ditto, .....	..	13	..	..	..		..
Ditto, .....	Madoordooah, ..			ditto, .....	..	21	..	..	..		..
Ditto, .....	Sambandal, ..			ditto, .....	..	91	26	90	17		..
Ditto, .....	Kularabad, ..			ditto, .....	..	21	..	..	..		..
Ditto, .....	Nazeerabad, ..			ditto, .....	..	49	5	..	..		..
Ditto, .....	Anundpore, ..			ditto, .....	..	41	..	..	..		..
Ditto, .....	Jugdeepotha, ..			ditto, .....	..	53	..	..	..		..
Ditto, .....	Hossainpore, ..			ditto, .....	..	5	..	..	..		..
Ditto, .....	Autghurah, ..			ditto, .....	..	34	..	..	..		..
Ditto, .....	Ranabatooah, ..			ditto, .....	..	13	..	..	..		..
Ditto, .....	Dhaloo, .....			ditto, .....	..	17	3	..	3		..
Ditto, .....	Pauchpotah, ..			ditto, .....	..	58	6	18	6		..
Tauzeeraut, ..	Bykuntpore, ..			ditto, .....	1	150	33	83	51		..
Ditto, .....	Kodaleah, .....			ditto, .....	3	157	13	17	55		..
Ramnagore, ..	Sreekhundpore, ..			ditto, .....	..	79	6	30	12		..
Ditto, .....	Kaderout, .....			ditto, .....	..	..	..	5	5		..
Ditto, .....	Sanorpore, .....			ditto, .....	1	58	12	42	4		..
Ditto, .....	Khord Rajpore, ..			ditto, .....	..	45	4	8	11		..
Ditto, .....	Chingreepotah, ..			ditto, .....	..	46	2	5	28		..
Ditto, .....	Hurreenobhee, ..			ditto, .....	..	31	..	..	..		..
					6	1239	215	533	223		

## REMARKS.

The extreme length of storm, properly speaking, is 16 miles, the effects from Kawrapokur to Anundpore (4 miles) being slightly felt.

POSTSCRIPT.—There may be thought to be so much of the marvellous in the foregoing account, however authentic and worthy of confidence, that we are almost afraid to add to it the annexed extract from a Madras newspaper. It should have been authenticated by the name or names of the Europeans who witnessed it. The hail may have been drifted together after its fall, and consolidated by its being colder than ice and thus cemented by freezing the moisture precipitated on it from the atmosphere.

*Falling of a block of Ice.*

“ We are afraid that, like the person who favored us with the account, we shall be accused of telling a traveller’s story, but the fact is too well verified to us to admit of our questioning the statement which we make. At *Nowloor*, in the neighbourhood of, and about two miles from, *Dharwar*, there fell a few days since a block of ice or a body of hailstones in one mass, which measured 19 feet 10 inches. This extraordinary mass fell on a Sunday night, and on the Wednesday succeeding, a servant, who was sent for the purpose of bringing away a pailful of the bulk, reported that the mass then still remaining was as large as three palanquins. We think such a fall as this must have astonished those who resided in the neighbourhood, who may thank their good fortunes that the mass broke not upon any devoted head. This phenomenon is to be attributed to the electrical state of the atmosphere, thunder storms have been very frequent of late in the neighbourhood of *Dharwar*, and but a short time since a tree in the fort of *Belgaum* was shattered to pieces by the electrical fluid, which fell only thirteen yards distance from the powder magazine. Much as we should have relished a portion of the frozen bulk (and we fancy in this climate the occurrence even of a hailstorm would not be unaccompanied with pleasure), we have no relish to have the missiles of the elements of such devastating dimensions as that which we now record.”—*Bombay Courier*, May 15, 1838.

VI.—*Account of an ancient temple at Hissar, and of the ship model at that place. By Capt. WM. BROWN.*

Having visited FERUZ SHAH’s pillar in the fort here, it immediately struck me that the base part of the column was one of the ancient Baudh monuments, corresponding with those at *Allahabad* and *Delhi*. The stone appears of the same description, but has suffered much from exposure to the climate; it has also the appearance of having been partially worked by FERUZ’s orders, and probably some inscription was cut upon it by his workmen, but of which there is now no trace owing to the peeling off of the exterior surface. I however observed, near the upper part of the stone, some of the ancient letters, which apparently have been saved by accident, and having procured a ladder, I copied them as correctly as possible, and few and indistinct as they are, I think it is likely they will satisfy you that this is one of the láts erected by PIYADASI. *Hissar* is on the road to *Cabul*, and has always formed one of the serais or resting places on that route, common with *Mehim*, *Hansi*, *Sersa*, &c.; and it is not improbable other láts may